DETECTION, HOMOLOGY AND PREDICTION EPITOPES GENES ENCODING CAPSULAR OF *Pasteurella multocida* BUFFALO ISOLATE FROM NTT (EAST NUSA TENGGARA)

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ABSTRACT

Pasteurella multocida is the causative agent of *Septicemia Epizootica* (SE) disease in cattle and buffalo. Based on the antigenic properties of *Pasteurella multocida* capsules can be divided into 5 serogroups A, B, D, E or F. *Pasteurella multocida* can be isolated from buffalo in Indonesia but determination of type A, B, D, E, F can be done based on genomics. The purpose of this study was to classify gene *bcbD* as encoding capsule of the buffalo isolate originating from East Nusa Tenggara. Detection of gene encoding capsular is done by Polymerase Chain Reaction (PCR) technique. The result of the research by PCR technique shows the band with 758bp length, it can be concluded that *Pasteurella Multocida* isolate from East Nusa Tenggara is *Pasteurella multocida* type B. The obtained PCR product is then sequenced to obtain the nucleotide sequence from gene *bcbD* encoding capsular *Pasteurella multocida* buffalo isolate from Nusa Tenggara East. The sequence result on *Pasteurella multocida* isolate from East Nusa Tenggara is 755 nucleotides. Data on nucleotide sequencing results were predicted using BLAST and then epitope prediction was performed. The result of homology analysis between *Pasteurella multocida* isolate from buffalo origin Nusa Tenggara with *Pasteurella multocida* isolate from *GenBank* (India, Australia and Iran) showed homology level which ranged from 99% to 100%. The results of the predictive analysis of B cell epitope protein on *bcbD* capsular gene protein *Pasteurella multocida* based on online program *B Cell Epitope Prediction Tools* / *IEDB* contained 5 identical epitopes in the positive isolate of gene *bcbD* encoding capsular of *Pasteurella multocida*.

Keyword : *Pasteurella multocida,* gene encoding capsular, Polymerase Chain Reaction, Sequencing